



RCU Magazine Review - World Models P-51 Mustang - Miss America



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World Models Manufacturing
P-51 Mustang G.S. - *Miss America*

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Introduction

The P-51 Mustang was the most famous fighter of

Out of the Box
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Manufacturer &
Distributor Info

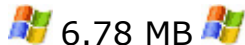
Dealer Info

AirBorne Models, LLC
2403 Research Drive,
Livermore, CA 94550
www.airborne-models.com

Video



Watch the Miss America
in Action



Ratings

Quality	★★★★★
Performance	★★★★★
Ease of Assembly	★★★★★
Looks	★★★★★
Hardware	★★★★
Manual	★★★★★

Hits

- Fiberglass cowl and Scoop
- Robust Retracts
- Fast building
- Thorough Manual
- Good Stall

World War II was the first fighter capable of escorting bombers deep into enemy territory. In 1966 Miss America was purchased as a stock P-51D and given the Miss America paint scheme. Miss America is a true legend, and an icon in American Aviation history.

World Models Manufacturing Company is now producing the Miss America in an 80.5" wing span ARF.

Specifications



Manufacture: The World Models Manufacturing Co., Ltd

Model: P-51 Mustang G.S. (Miss America)

Scale: 1/5

Wing Span: 80.5"

Wing Area: 1155 sq in

Length: 70"

Actual Flying Weight: 15.0 lbs 0.0 oz

Engine Used: Supertigre G2300

Prop: Master Airscrew Classic 18x6

Radio Used: JR XF 783

Channels: 6 Channels used

Servos: 7 Hitec HS-475,

Construction: Plywood & Balsa Built up

- characteristics
- Very scale appearance

Misses

- Some Covering had to re-ironed

Out of the Box



Fuse,Cowl,Scoop,Spinner



Wing and Tail Parts



Mustang Box

The Mustang arrived in a large box. Everything in the box was in good condition, except for one wing tip with a few dings in it. I shrunk the covering and it looks fine. All hardware was complete. Some items worth mentioning; the retracts were already installed and are designed well. Also supplied in the kit was a clear temporary cowl used as a template for making the cut outs in the painted cowl. All that's needed to finish the Mustang is fuel line, radio gear and engine.

Wing Assembly



Wing and Tubes

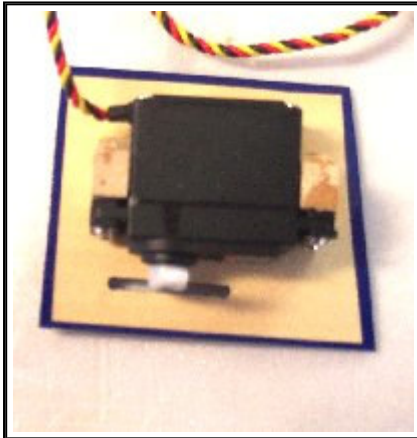
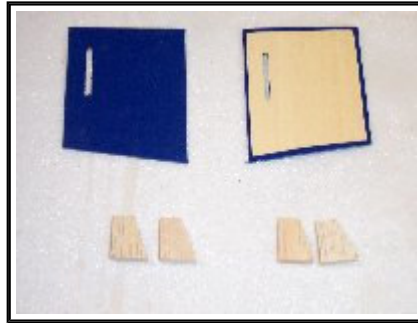


Wing Halves Hardware

World Models designed the wing on the mustang as a two-piece, plug together wing. The wing is joined together by two aluminum tubes, and then bolted together by the supplied 90-degree angle brackets. The angle brackets are first bolted to each wing half. Then, slide the two wing halves together and the other bolts then go through the other half of the angle brackets drawing the halves together. This feature is very nice for being able to transport the mustang in a

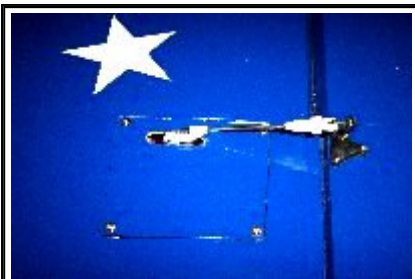
smaller vehicle. The ailerons and flaps come all hinged and glued in place. The hinges used in the mustang are an all-metal hinge that should be very durable.

Wing Servos



The aileron and flap servos are very easy to install. First remove the servo bay covers, which are just taped in place. The servos will be mounted to the servo bay covers. Next look in the manual and it will show what the balsa blocks look like that will be needed for mounting the servos. Use a servo as a template for gluing the blocks in place. After gluing the blocks in place, make holes for the servo screws. I recommend wicking thin CA into the holes, as this will harden the wood and help the servo screws stay tight. The flap and aileron servos will mount on to the wing servo covers the same way. When installing the servos be sure to you look at the servo covers closely, they need to go in certain locations so the ailerons and flap servos go in the right direction. The aileron servo outputs need to be opposite of each other, in order for the ailerons to work correctly. When the servo outputs are opposite of each other this will make the ailerons work opposite of the other. With the flap servos, the output arms need to face the same direction together.

Aileron and Flap Linkages



Aileron Linkage



Flap Linkage

The aileron and flap linkages are very simple to make. All hardware is supplied in kit. After the control horns are installed, hold the controlling surface in the neutral

position and get a measurement to the servo. Make a 90-degree bend in the wire; this end will go through the servo arm. The other end will hook to the control horn with a clevis. Make sure, after the linkages are made, there is no binding and the servo can actuate fully, without hitting on servo the arm opening. It may become necessary to increase the size of the opening. Be sure to install on the linkages the supplied small pieces of fuel tubing. These ensure that the clevis cannot open up and come off.

Retracts



Retract Up

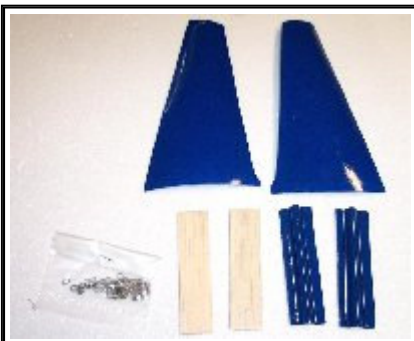


Retract down

The retracts are already installed in the wing. They are robust in size and are mounted very solidly. At the wheel, the strut was designed to have some give built into it for hard landings. This can be seen by the U shaped bend next to the wheel. Another nice feature of these retracts is there is no need to use a retract servo.

The retracts, have a spring inside them that assist the servo as the wheel is coming up. In the instruction manual World Models tells how much travel is need from your servo to fully actuate the retract mechanism. This can be accomplished with a large servo arm. If for some reason you should bend one of the retract strut, there are procedures in the back of the instruction manual on how to straighten them.

Outer Retract doors



Outer Retract doors

Follow the instructions manual when installing. Use Household Goop adhesive on all parts when assembling. The Goop adhesive will dry and stay flexible, which is useful if the retract doors should bumped or have a hard landing.

Retract Servos

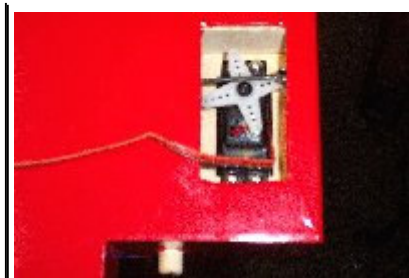




Retract Servo



Servo in Up position



Servo in Down Position

The BMS-620MG servo from Blue Bird was chosen for the retracts. It has all metal gears, double ball bearings and produces 120 ounce inches of torque. The supplied control horns with servo will give the needed throw for the retract to actuate fully. The Mustang uses two servos one in each wing half. All necessary hardware is supplied.

Engine & Cowling Installation



Engine Box Side



Engine Box

The Supertigre G2300 was chosen for the review; it has a displacement of 1.40 cubic inches or 23cc and develops 3.7 horsepower @ 12,500 RPM. Weight with muffler is 37.65 ounces or 2.35 Lbs. The suggested prop sizes from Supertigre are 18x6, 18x8 and 18x10. The 18x6 Master Airscrew, Classic was chosen for the review. A lighter pitched prop will let the engine RPM be higher.

Engine Mounting



Engine Mounts and Hardware



Engine Left Side



Engine Right Side

The engine mount that is supplied in the kit is an anti vibration type mount. There's a little more work involved with assembling the mount and installing the

engine in the mount. When ready to install the engine look at the instruction manual carefully. A noticeable difference in the mounting procedures is you will be drilling out plates that clamp to the engine mounting tabs. It is not necessary to drill the engine mount itself for it is already done for you. After having the plates drilled, then bolt them to the engine with the rubber anti vibration pieces between them. Once all the pieces are bolted together it is time to install the engine. In the motor mount hardware there will be many brass shims. Pay close attention to which ones are needed. It will depend on the size of the mounting holes on the engine. Use the brass shims where the bolts go through the rubber and the mount otherwise the bolts will pull through the rubber and not be tight.

Muffler Mounting



Muffler Opening



Muffler Mounted

A slim line muffler was used for the review. It is an inverted Pitt's style. The firewall had to be modified for the muffler to have clearance. If the recommended engines are used then skip this step. The firewall was cut to give ample space around the muffler, then boxed in with 1/16 plywood. There was no concern with the firewall loosing any strength. It is installed very well and there is plenty of material.

Cowling



Engine In cowling



Cowling Screws

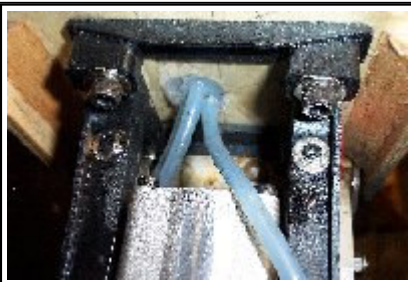
The cowling on the Mustang is nicely painted. The color lines line up very nicely with the covering. A nice feature is the cowl screws and rubber washers. These little rubber washers' work to hold the cowling tight. It is not necessary to tighten

the cowl screws very tight, they act like a rubber mount and let the cowl move slightly without it coming loose or being damaged by the vibration. The mounting holes in the cowl parts are already drilled making installation very easy. Also World Models supplies a clear plastic cowling to make cutouts in first. Then once your satisfied with your fit and openings you slide the clear plastic cowl over the painted cowl and the cutout and openings will be perfect.

Engine break in and Performance

The Superetigre G 2300 is a well made engine. The first time I started the engine, I primed it like normal, hooked up the glow starter and it started right up and sat there idling. After three tanks of fuel the engine it was idling very reliably and I felt that it was ready to flown. I used the 18x6 prop for break in and flying. The Supertigre G 2300 turns the 18x6 Master Airscrew classic prop at 8300 rpm's, even with the engine not broke in. One note about the engine, if you use another muffler other than the stock muffler, make sure that the outlet on the muffler you choose has the same size as stock muffler. The engine needs to have the correct backpressure and fuel tank pressure to run properly. The G 2300 is a nice power combination for the Mustang. Use a Slim line inverted Pitt's style muffler and there will be no engine components outside the cowl, giving the mustang a nice scale appearance.

Fuel Tank Installation & Set up



Fuel Lines Exit



Fuel Tank Mounted

Before installing the fuel tank, decide between a two or three line fuel system. For a two-line system, disconnect the fuel-line off the carburetor each time the tank is filled or emptied. With a three-line system there will be a separate line used for filling and emptying the fuel tank. When installing the tank make sure that the motor mount bolts aren't sticking too far out of the firewall. If so, they could puncture a hole in the tank over time, from the vibration.

The fuel tank installation is very easy. Because of using the inverted Pitts style muffler and having modify the fire wall slightly, The fuel tank will have to moved back slightly from original location. Just follow the instruction manual and you will have no problems. One nice feature with the tank installation is the tank stopper protrudes through the firewall leaving all fuel lines visible from the front.

Installing Fin & Rudder, Stab & Elevators





Stab and Joiner Tubes



Stabs Joined



Vertical Fin Installed

Installing the tail parts was very easy; they aligned perfectly and took very little time. The horizontal stabs are designed so that they can be removed, making transportation much easier. The instruction manual says to glue the joiner tube into one half of the stab. After installing stabs on fuselage, there are two supplied screws that go through the stabs and into the fuselage. World Models has already installed the blind nuts in the fuselage and they line up very nicely. The vertical fin is glued in to the fuselage. The rear of the fuselage is designed so, that the rudder post will slide into the fuselage halves and it will hold the fin in place. As a suggestion to make sure that fin stays in proper alignment, use masking tape to hold still. The instruction manual tells what steps to take to make sure you have proper alignment.

Control Linkages



Elevator, Rudder Pull,
Pull Hardware



Assembled Pull, Pull

Pull, Pull Linkages

The rudder and elevator linkages are a cabled pull, pull system, which will need assembling. Follow the instruction manual carefully when assembling. There are illustrations showing how the wire must be looped around the brass bushing, and then crimped. One word of caution when assembling the pull, pull system. Make sure that the servo and controlling surface are centered, so the length of the cable will be correct. There is only one opportunity to make it right. Once made, its permanent.





Elevator Linkage
Hardware



Elevator Linkage One
Side

The elevator linkage is made up of a shaft that passes all the way through the fuselage with control horns on the inside and outside. The pull, pull cables for the elevator connect to the control horn on the inside of the fuselage.



Elevator Control Horn



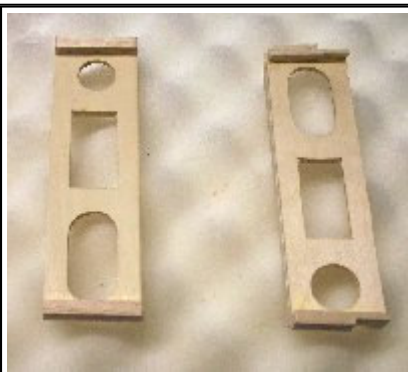
Elevator Linkage

Once the elevator linkage is installed in the fuselage it's time to make the short wire linkage going to the each elevator half. One nice feature about this system is that it makes leveling the elevator halves very easy.

Rudder

The rudder pull, pull system is also easy to assemble. Follow the steps in the instruction manual. Remember to make sure when assembling the pull, pull system that the servo and rudder are centered. The cables can't be taken apart and made over.

Servo Installation



Elevator, Rudder Servo
Mounts



Elevator, Rudder,
Servos

The servo mounts are already made. One mounts in the upper front position and the other in lower rear position. The upper front servo mount is for the elevator.

Mount the lower rudder servo mount first. If upper servo mount is put in first it will interfere with mounting the lower.



Throttle Servo Mounted

Throttle

A HS-85 servo was used for the throttle. By using the smaller servo it's possible to mount the servo more forward in an area that wasn't meant for a servo but fits very well. This puts the servo closer to the engine and a shorter throttle cable can be used.

Radio set up

The radio I chose is the JR Xp 783. I felt that it would be a good combination for the Mustang. The receiver battery is a 2500mah 5 cell Nimh pack. I wrapped the battery and receiver in foam and installed them where the instruction manual recommended. Next I ran the antenna out the bottom of the fuselage. All control throws were set according to the manual. The rudder is 41mm each direction from center. Elevator 18mm up & down from center. Ailerons are 12mm up and down from center and flaps are 50mm down for landing. It has not been necessary to make any changes from these settings since flown.

At the Flight Line

Take Offs

On take offs you apply a little up elevator. Advance the throttle to full and be ready for any rudder corrections that might be necessary. The rudder on the Mustang has real good authority, so be careful not to over correct. As the air speed increases the tail will lift and the Mustang will roll on the main landing till ready to fly.



Landings

The Mustang lands very nicely. Always remember to keep the airspeed up especially when using the flaps. The mustang will fly very slowly with the flaps on fully. When not using the flaps the Mustang will land much faster and stalling is more abrupt. When ever the Mustang would stall, it always went to the left making it very predictable.



Flight Performance

With the Supertigre G2300 there's plenty of power to do most aerobatic maneuvers. The Mustang flies at a nice scale speed with plenty of power to pull it through scale looking loops. With the recommended control throws on the ailerons rolls are very scale.



Weight & Balance

World Models recommends the Center of Gravity to be 6.9 inches behind the leading edge of the wing at the fuselage sides. Always remember the Mustang is low wing airplane and should be balanced upside down. With the G2300 there was no need for any additional weight for balancing.



Summary

The Miss America Mustang is great flying and nice looking stand off scale Mustang. It looks like a real Mustang in the air and flies like one. The Mustang comes with good hardware, nice scale spinner and painted pilot. It's a good value for the money.

Follow the instructions in the manual when assembling and you should be happy with the results.

Distributor Information

AirBorne Models, LLC
2403 Research Drive,
Livermore, CA 94550

Hitec RCD USA, Inc.

12115 Paine RD
Poway CA, 92064
www.hitecrcd.com

Balsa Products LLC

140 East Road West- Suit J
Piscataway NJ, 08854
www.balsapr.com

The comments, observations and conclusions made in this review are solely with respect to the particular item the editor reviewed and may not apply generally to similar products by the manufacturer. We cannot be responsible for any manufacturer defects in workmanship or other deficiencies in products like the one featured in the review.

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Photo		Manufacturer	Product	Summary	Reviewed
	Great Planes	U-Can-Do 3D Ep	One thing Great Planes isn't shy about is trying a revolutionary approach to solving a common problem. In this case, the issue is practicing those low-and-slow 3D maneuvers without fear of doing major damage to the airplane when the "dumb thumbs" come a-calling.		11/20/2005 New!
	Graupner	Starlet - 50	The Starlet 50 is an open frame design based on Graupner's UNI EXPERT mechanics. Powered by a .46 to .50-size heli engine, the Starlet is primarily for the novice heli pilot although it is a capable aerobatic performer well suited for the more advanced pilot.		11/20/2005 New!
	Balancing	Upside Down!	It seems that lately we have been getting a lot of questions asking if it is correct to balance a low wing plane upside-down. The simple answer to this is "Yes", but a more accurate answer would be "Usually, but not necessarily always". Once you understand the basic principle, you'll easily see why.		11/13/2005 New!
	Precision Aerobatics	Bad Boy V2	Precision Aerobatics have set a new standard for Almost-Ready-To-Fly models. I have never seen another ARF that has been this high quality. The plane does everything you tell it to do and will definitely become a frequent flyer in my hanger.		11/07/2005
	Model Tech	Twister ARF	Model Tech's NEW Twister ARF is a aerobatic platform that can fly precise pattern or awesome 3D freestyle with just a click of your high and low rate switch. With it's sleek lines and exceptional covering, this bird looks good in the air and sitting in the pits.		11/07/2005
	Bill Pryor	How to Crate/Ship a Giant Scale Air	I often see ads for planes that say you can pick them up, but they're too big to ship. Wrong! Nothing is too big to ship.		11/05/2005
	World Models	Cessna Skylane EP	The Cessna Skylane EP has full house controls (ailerons, elevator, rudder, and throttle) which extend maneuvering limits and deliver scale flying. The strong wood structure and tough covering give the airframe low wingloading and the capability for further power upgrades.		10/31/2005
	World Models	Ultimate 120R	I cranked up the YS 110 and set her on the runway. The Landing Gear are very sturdy, and hold the Ultimate's nose high enough that the 16x4 APC Prop had no trouble clearing the ground.		10/31/2005

Gary Wright originally designed the E3D kit to fill a gap in the market for a fully acrobatically capable



**Gary
Wright**

E3D ARF

electric plane that could exist on an expensive power system. Today that mission statement continues to live on, however with one improvement, it is now sold as an ARF

10/25/2005



CEN Racing

**Genesis 46 LE
RTR Limited
Edition**

The Cen Genesis 46 LE may offer up feelings of déjà vu to anyone who has driven the original version of the truck. It certainly gave me that very feeling for me, once I pulled it out of the box. However, despite the facts that things appear the same, there are some significant differences that have been incorporated with the truck this time around. I'm definitely curious to dive into this truck and see what all Cen has changed.

10/25/2005



RD Logics

SHO

Despite how impressive the buggy looks, it isn't going to prove itself sitting beside the box. After all, this buggy arrived at my doorstep, and I'm not known for being a pushover in regards to putting a vehicle through a torture test. So, it's time to head to the hobby store and grab some nitro.

10/16/2005



Model Tech

**Magic Formula
3D**

Modeltech introduces the the Magic Formula 3D to its line of 3D type aircraft. It includes large control surfaces and expertly covered in genuine Monokote.

10/07/2005



Proboat

**Vortex .46
Airboat RTR**

The Vortex is one sleek looking watercraft, which is a fact that can't be denied. Just viewing it after pulling it from the box, gave me some visions of power and speed.

10/07/2005



Hobbico

Superstar - EP

The Hobbico Superstar EP ARF is available in three versions to suit your needs and level of completeness. In stock form, the direct drive Speed 600 motor provides adequate power and flight times of around 5 minutes.

10/07/2005



**Skyshark
RC**

Christian Eagle

So a while back, when I was surfing the Internet, I came across Skyshark R/C's ad for their upcoming new ARF - A Christen Eagle! This plane seemed to have everything - Nice lines, good aerobatic capability, and a color scheme that not only fits its name, but that is one of the most beautiful and recognizable in the industry.

10/07/2005



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